

# Idaho Disease

# BULLETIN

**Special Zoonotic Disease Edition, September 2005**

**Idaho Department of Health and Welfare, Office of Epidemiology and Food Protection**

## Letter from the Editor

Many of you recently responded to a zoonotic disease questionnaire distributed by our office. A summary of responses is presented later in this document. What we learned from your collective responses is that there is an overwhelming interest in learning more about the following:

- Reportable diseases in Idaho;
- Professional resources regarding zoonotic diseases;
- The occurrence of zoonotic diseases in Idaho;
- Specific details about rabies in Idaho;
- Current packaging and shipping requirements for clinical samples;
- Opportunities to participate in veterinary emergency response activities;
- Interfacing with district health department epidemiologists; and,
- The Health Alert Network.

We hope that this special edition of the Idaho Disease Bulletin — tailored for the veterinary community — addresses some of your needs. The Idaho Disease Bulletin is generated every two months and targets issues of interest to the healthcare provider community. Special veterinary editions will be published periodically.

Idaho Disease Bulletins from 1997 to the present may be found at <http://www.epi.idaho.gov>.

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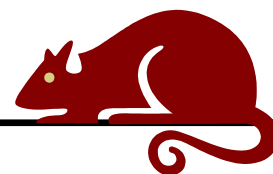
## Reportable Diseases in Idaho



Reportable diseases of humans and animals are listed on the following web sites. There is some overlap with regard to zoonotic pathogens.

**Human:** Idaho Department of Health and Welfare (IDHW), <http://www.epi.idaho.gov>.

**Animal:** Idaho State Department of Agriculture, (ISDA), <http://www.agri.state.id.us>. From this page select from the column on the left “Animals”, then “Animal Health”, then “Animal Disease”. Reportable and notifiable disease lists are found on the Animal Disease page.



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## Zoonotic Disease Summary–Idaho, 1999–2004

Healthcare providers and laboratorians are required by law to report suspicion or diagnosis of a reportable disease in Idaho, many of which are zoonotic. The table below lists the number of probable or confirmed human cases of 16 different zoonotic diseases received by the Office of Epidemiology and Food Protection (OEFP) between 1999 and 2004. Clearly, enteric infections including toxigenic *E. coli*, *Salmonella*, *Campylobacter*, *giardia* and *cryptosporidiosis* were the most commonly reported zoonotic diseases.

**Human Zoonotic Infections Reported in Idaho, 1999–2004**

	1999	2000	2001	2002	2003	2004
<b>Anthrax</b>	0	0	0	0	0	0
<b>Brucellosis</b>	0	0	0	2	0	0
<b>Campylobacter</b>	198	252	248	208	244	238
<b>Cryptosporidiosis</b>	8	28	23	30	27	28
<b><i>E.coli</i> (O157:H7 and other toxigenic <i>E. coli</i>)</b>	78	73	86	63	101	74
<b>Giardia</b>	134	139	172	137	206	212
<b>Hantavirus</b>	3	0	2	1	2	1
<b>Leptospirosis</b>	1	1	1	0	1	0
<b>Lyme disease</b>	3	4	5	4	3	6
<b>Plague</b>	0	0	0	0	0	0
<b>Psittacosis</b>	0	0	0	0	1	0
<b>Q-fever</b>	0	1	0	2	1	1
<b>Rabies/all species</b>	6	10	29	38	15	8
<b>Rocky Mountain Spotted Fever</b>	0	1	1	0	2	4
<b><i>Salmonella</i></b>	135	132	146	184	181	159
<b>Tularemia</b>	1	0	0	0	0	1

Although rare, other zoonotic diseases have been documented in Idaho over the years.

### **Anthrax**

- Human cases in Idaho: 2 in 1945, 1 in 1946, and 1 in 1964.
- Animal cases in Idaho: The last known outbreak was in 1983 in cattle in Caribou County.

### **Lyme disease**

- Lyme disease, caused by *Borrelia burgdorferi*, is of great concern for veterinary practitioners in states known to harbor the vector ticks (*Ixodes scapularis* in the east and *Ixodes pacificus* in the west). *Ixodes pacificus* has been found in many western states, although it has not been detected to date in Idaho. Despite what little we know about the vector in Idaho, a handful of human cases are reported annually, some of which may have acquired their infection out-of-state. Whether in animals or people, laboratory diagnosis of Lyme disease is complicated. In humans, a two-tiered

testing approach is required to confirm a case. The initial screening test is an ELISA (enzyme linked immunosorbent assay) for IgM and IgG which shows cross-reactivity with other similar agents. The confirmatory test is a Western blot (WB). Many cases are reported to IDHW in the absence of WB confirmation. It appears that the risk for Lyme disease in animals in Idaho is low.

### **Plague**

- Human cases in Idaho: 1 in 1987, 1 in 1991, and 1 in 1992.

### **Tularemia in Idaho**

- Six human cases have been reported between 1990 and 2004. One case was documented in a veterinarian who acquired the infection from a cat.

### **West Nile Virus**

- West Nile virus (WNV) is nearly ubiquitous across the nation and across south and southwestern Idaho. The Centers for Disease Control and

Prevention (CDC) web site posts weekly updates of nationwide disease activity at <http://www.cdc.gov/ncidod/dvbid/westnile/index.htm>. Currently WNV data for Idaho may be accessed through <http://www.westnile.idaho.gov>. In 2004, 11 of 44 Idaho counties documented some level of WNV activity beginning around August 24, 2004. By the end of the 2004 mosquito season 3 humans, 22 horses, and 7 birds had been reported with the virus. In 2005, as of this printing there have been 14 horses (all unvaccinated) reported; 57% (8 of 14) died or were euthanized. Numerous positive mosquito samples and positive birds have also been detected by the Idaho Department of Health and Welfare public health laboratory so far in 2005.

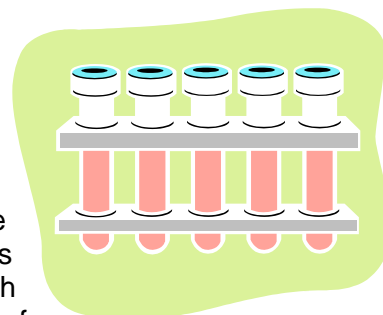
Although seroconversion has been documented, with rare exception, WNV does not seem to cause demonstrable clinical illness in dogs, cats, or cattle. The following article has useful information about the infection in dogs and cats.

*Experimental Infection of Cats and Dogs with West Nile Virus*, Emerging Infectious Diseases  
Vol 10, No. 1, January 2004  
<http://www.cdc.gov/ncidod/EID/vol10no1/02-0616.htm>.

More information on WNV and horses can be found on the USDA/APHIS website:  
<http://www.aphis.usda.gov/vs/nahps/equine/wnv/>

## **Laboratory Specimen Shipment for Veterinary Purposes**

Regulations regarding safe packaging and proper labeling and shipping seem to change frequently. It is the responsibility of the shipper to keep up with these changes. In the United States, laboratory specimen shipment is governed by regulations issued by the Department of Transportation (DOT) and the U.S. Postal Service. International air shipment is governed by technical instructions from the International Civil Aviation Organization and published annually in the International Air Transport Association (IATA) Dangerous Goods Regulations manual. A person shipping laboratory specimens must be certified to comply with regulations set forth by the DOT and IATA. Training is available from a variety of commercial sources and may involve only reviewing an educational CD periodically. Some commercial laboratories may provide information on proper packing and shipping to their clients. Other training may be available through companies that provide certified packaging materials for safe transport of laboratory specimens. The following information should assist you in locating appropriate training for your purposes. These regulations do apply to veterinary samples.



ARUP Laboratories 500 Chipeta Way SLC, Utah 84108 800.522.2787 <a href="http://www.aruplab.com">www.aruplab.com</a>	Saf-T-Pak, Inc. 182 Street Edmonton, AB, T5S 1J5, Canada 800.814.7484 <a href="http://www.saftpak.com">www.saftpak.com</a>
Dangerous Goods Advisory Council 1100 M. St., NW Suite 740 Washington, DC 20005 800.634.1598 <a href="http://www.hmac.org">http://www.hmac.org</a>	National Assn. of Safety Professionals 1101 30 <sup>th</sup> St. NW Suite 500 Washington, DC 20007 800.922-2219 <a href="http://www.naspweb.com">http://www.naspweb.com</a>
IATA Home Page <a href="http://www.iata.org">http://www.iata.org</a>  IATA Dangerous Goods Regulation Manual <a href="http://www.iata.org/ps/publications/9065.htm">http://www.iata.org/ps/publications/9065.htm</a>	

## Focus on Rabies

Rabies is probably the most well-known and feared zoonotic disease. Rabid bats are the greatest risk for human infection in the United States and Idaho. Nationally, between 1990 and 2001, there have been 36 human cases of rabies: 75% of them (27/36) had a bat strain of rabies. The remaining nine human cases had a dog or coyote strain of rabies (seven from dog exposures while traveling to foreign countries and the remaining two from coyote exposures in Texas). The CDC rabies web site can be accessed through <http://www.cdc.gov/ncidod/dvrd/rabies/Professional/professi.htm>.



Detection year	Number of rabid bats
2004	7
2003	15
2002	38
2001	28
2000	10
1999	5
Other species having a bat strain	
2004	Skunk
2001	Bobcat
1999	Horse
1992	Cat
1991	Cat
1968	Raccoon
1967	Cat
1967	Skunk

In Idaho, only bats are known to be a natural reservoir for rabies. Rabid bats have been found every year across the state from May to November. Bats submitted for testing by the state public health laboratory do not represent the bat population as a whole, rather they represent bats that were impaired enough to be captured and submitted for testing. Of submitted bats, an average of 11 percent annually test positive for rabies. The adjacent table lists rabid bats diagnosed between 1999 and 2004 in Idaho. Even though bats are the only known reservoir for rabies in Idaho, all mammals should still be considered potentially rabid when an exposure to saliva or central nervous tissue occurs. Examples of other species found to have a bat strain of rabies in Idaho also are shown in the table. Bats pose an additional challenge for medical management of exposed persons and animals because of the seemingly insignificant exposures that may lead to an infection. In fact, unlike other potentially rabid species, bats have been implicated in fatal cases with no known documented bite, including waking in the presence of a bat. The last known human case of rabies in Idaho occurred in 1978 from a contaminated corneal transplant.

### **Rabies Protocols**

A rabies protocol was jointly developed between the Idaho Department of Health and Welfare and the Idaho State Department of Agriculture, among others, to provide guidance to practitioners dealing with issues related to rabies exposures. The Rabies Protocol includes guidance for the most common scenarios which are encountered in veterinary practice involving exposure between animals and between animals and people. The Rabies Protocol attempts to provide guidelines on situation management, and relies heavily on documents like the Compendium of Animal Rabies Prevention and Control (2005 or current). The Rabies Protocol is updated regularly. The Rabies Protocol may be found at <http://www.epi.idaho.gov> under "Communicable Diseases Resources", along with other information on rabies in Idaho, including maps of locations where rabid animals were found in Idaho between 2001 and 2004.

### **Pre- and Post-exposure Prophylaxis**

Advisory Committee on Immunization Practices (ACIP) guidelines exist for rabies pre- and post-exposure prophylaxis for people. Veterinarians and others in high risk occupations, such as spelunkers and rabies researchers, should protect themselves from the risk of rabies exposure by receiving the pre-exposure rabies vaccination series. The immediate implementation of rabies post-exposure prophylaxis according to the ACIP guidelines in humans exposed to rabid animals appears quite efficacious and life-saving. Find the latest ACIP document from 1999 at: (<http://www.cdc.gov/mmwr/preview/mmwrhtml/00056176.htm>).

### **Serologic Testing of Animals for Export to Rabies-free Countries**

Demonstration of anti-rabies antibodies is often required to export animals to rabies-free countries. There is not an established protective rabies antibody titer level in animals, but many countries require proof of anti-rabies antibodies as confirmation of rabies vaccination. Kansas State University College of Veterinary Medicine has a web site with information about rabies antibody testing in animals at <http://www.vet.ksu.edu/depts/rabies/>. NOTE: Testing for rabies infection still requires brain tissue.

## Professional Resources On-line

A broad range of topics of interest were identified through questionnaire responses. The following compilation of web sites and on-line resources provides information on many of those topics.

### **IDHW Web Sites**

<a href="http://www.diseaseinfo.idaho.gov">http://www.diseaseinfo.idaho.gov</a> <b>(communicable disease resource page)</b>	<a href="http://www.foodsafety.idaho.gov">http://www.foodsafety.idaho.gov</a> <b>(food protection program)</b>
<a href="http://www.epi.idaho.gov">http://www.epi.idaho.gov</a> <b>(epidemiology home page)</b>	<a href="http://www.healthandwelfare.idaho.gov">http://www.healthandwelfare.idaho.gov</a> <b>(Division of Health home page)</b>
	<a href="http://www.westnile.idaho.gov">http://www.westnile.idaho.gov</a> <b>(West Nile Virus page)</b>

### <http://www.cdc.gov>

The CDC has an extensive web site on just about anything related to infectious diseases. From the homepage, select Health Topics A–Z to find a particular disease.

### <http://www.cdc.gov/healthypets/>

“*Healthy Pets / Healthy People*” is a CDC site for veterinarians and other healthcare providers. You may browse the site by animal or by disease. It is not all-encompassing, but it has a lot of valuable information for you to view or share with your clientele. Some examples of articles found on this site include:

- Guidelines for Veterinarians: Prevention of Zoonotic Transmission of Ascarids and Hookworms of Dogs and Cats;
- Toxoplasmosis: An Important Message for Cat Owners;
- Reptile-associated Salmonellosis; and
- Leptospirosis and Your Pet.



### <http://www.nasphv.org/>

The National Association of State Public Health Veterinarians (NASPHV) publishes a standard set of guidelines (compendia) which are updated as needed as resource materials for public health and veterinary professionals. Available compendia include the following:

- Compendium of Animal Rabies Prevention and Control, 2005;
- Compendium of Measures To Control *Chlamydophila psittaci* (formerly *Chlamydia psittaci*) Infection among Humans (Psittacosis) and Pet Birds, 2005; and
- Compendium of Measures to Prevent Disease Associated with Animals in Public Settings, 2005.

### <http://www.aphis.usda.gov/lpa/issues/bse/bse.html>

BSE is in the news on a regular basis. This USDA/APHIS website has information on testing and surveillance.

### **Links for those working with immunocompromised pet owners**

Immunocompromised persons owning pets may have zoonotic disease concerns. The following documents address many of these unique issues.

- Preventing zoonotic diseases in immunocompromised persons: The role of physicians and veterinarians. <http://www.cdc.gov/ncidod/eid/vol5no1/grant.htm>; and
- Preventing infections from pets. A guide for people with HIV infection. [http://www.cdc.gov/hiv/pubs/brochure/oi\\_pets](http://www.cdc.gov/hiv/pubs/brochure/oi_pets).

### **Cats and Zoonotic Disease**

An article was published in the March 2005 CAT FANCY magazine by Janice Willard, DVM and Marty Becker, DVM of Idaho. The article, “Reduce Your Risk, Could Your Cat Make You Sick? 4 Things You Can Do to Stay Safe”, has information for the lay person on feline zoonoses. This might be a handy information sheet for your clients.

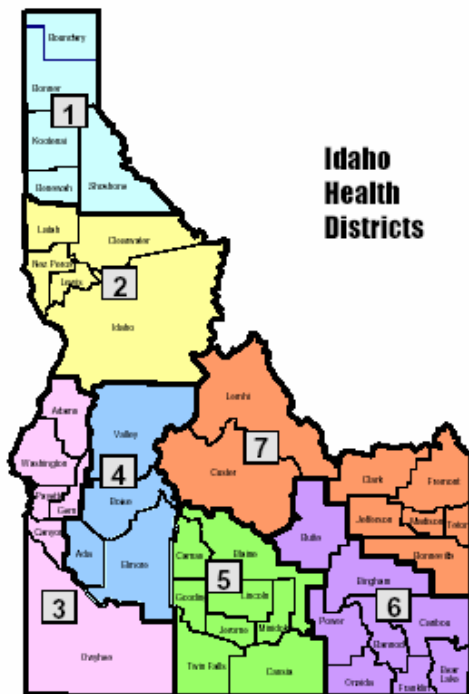
## Turtle-associated Regulations

Occasionally, veterinarians receive questions about immature turtles. Since 1975 there has been Food and Drug Administration (FDA) regulation banning the sale of turtles with a carapace length of less than four inches (except for teaching purposes) because of the public health impact of turtle-associated salmonellosis. This regulation is enforced by the FDA in cooperation with state and local health jurisdictions. Experts estimate that the regulation has prevented about 100,000 cases of salmonellosis per year. There are some pet stores and web-based animal dealers that do not comply with this regulation, which can impact Idaho residents. To read about the FDA regulation see: <http://www.fda.gov/cvm/Documents/Turtlereq.doc>.

## Avian Influenza

During the last few decades, the typical annual human influenza season has been characterized by infections with the H3N2 or H1N1 subtype of influenza A. Each year, these subtypes “drift” or change their surface protein characteristics slightly due to point mutations, but are basically the same subtypes year after year. If a completely different influenza subtype, such as H5N1, which is a highly pathogenic strain found in avian species, moves through the human population, morbidity and mortality may be far greater than a typical influenza season. The complete replacement of the H or the N is known as a “shift” resulting in a new subtype. A shift may have devastating effects on the population. A noteworthy shift caused the influenza pandemic of 1918, which killed millions globally. Pandemics are thought to happen by several mechanisms and may include a jump from an animal host to a human, the ability of that subtype to cause disease in that human, and the ability of that virus to then be readily transmissible from person-to-person. To date, H5N1 infections are occurring in Asia in birds and people. H5N1 appears to have jumped from infected birds to people on several occasions and has caused significant mortality in those affected. Efficient person-to-person spread has not been demonstrated yet. If H5N1 developed the ability to spread from person-to-person, a pandemic could ensue. To learn more about avian influenza from CDC, see <http://www.cdc.gov/flu/avian/index.htm>, or from the World Health Organization, see [http://www.who.int/topics/avian\\_influenza/en/](http://www.who.int/topics/avian_influenza/en/).

## HEALTH ALERT NETWORK



The Health Alert Network (HAN) in Idaho is an automated system which provides a means by which critical, urgent health-related information is distributed rapidly to designated health partners, including veterinarians, for their immediate attention. HAN was established in Idaho under a cooperative agreement with the CDC.

When a health threat is identified, the Idaho Department of Health and Welfare or the health district in your area will send an email or a fax message to healthcare providers, veterinarians, and other appropriate partners, depending on the threat. HAN is an alerting mechanism and is not a route for routine updates or educational material. The number of health alerts sent out is minimal. The health districts are very interested in including veterinarians and can direct the alerts to the appropriate HAN recipients. Veterinarians should not receive extraneous information on topics of no relevance to the veterinary community. Examples of topics of past health alerts of interest to veterinarians are West Nile virus and an outbreak of *Salmonella* in people and cats.

If you have not already done so, consider registering for the Idaho HAN by accessing: <https://health.dhw.state.id.us/IDHAN/>

If you wish to discuss the Idaho HAN or zoonotic disease issues, please contact your local public health district epidemiologist. District epidemiologist contact information may be found at: <http://www.epi.idaho.gov> under Health Districts.

## **Idaho Veterinary Emergency Response Team (IVERT) Seeks Additional Members**

Idaho State Department of Agriculture (ISDA), Division of Animal Industries, in conjunction with the United States Department of Agriculture (USDA), is continuing to develop a plan of action for response to large-scale animal disease emergencies. The creation of an Idaho Veterinary Emergency Response Team (IVERT) in 2002 was a result of initial planning efforts. IVERT veterinarians and veterinary technicians undergo training in foreign animal disease recognition and animal health emergency management response. Approximately 100 veterinarians and 25 veterinary technicians from Idaho have attended IVERT trainings over the last three years. ISDA would like to identify additional veterinarians who would be willing to join IVERT. IVERT participation is critical in Idaho, as the combined staff of ISDA Animal Industries and USDA Veterinary Services would not be adequate to conduct all of the activities that would be required to quickly and efficiently respond to an incursion of a foreign animal disease, such as Foot and Mouth Disease. A cadre of trained, private-practice veterinarians could effectively aid the state disease response. During an animal health emergency, IVERT members would be considered for temporary duty as Deputy State Veterinarians. Idaho law provides that veterinarians employed as Deputy State Veterinarians must be

graduates of a veterinary college recognized by the United States Department of Agriculture. Veterinarians would be compensated for time spent in training, as well as “on the job” if they are needed to respond to an animal health emergency. Those who complete an application and agree to take advantage of on-going regional or national training opportunities would become members of IVERT. Continuing education credits are typically available.

Training topics covered include the following: emergency planning\*, foreign animal disease recognition, epidemiology, aspects of bioterrorism/agroterrorism recognition, disease reporting and surveillance, biosecurity issues, and compensation.

\* National incident management system / incident command system

An application for membership in IVERT can be obtained through the ISDA website at [www.idahoag.us](http://www.idahoag.us) under “Animals”, then “Emergency Management”, or by calling Dr. Marilyn Simunich at 208.332.8547 for a hard copy of the application form. Please fax the application to 208.334.4062 or mail to the Division of Animal Industries at PO Box 7249, Boise, ID 83707. Both active and retired (currently licensed) veterinarians who are interested in being a part of the Idaho Veterinary Emergency Response Team are encouraged to respond.

## **Zoonotic Disease Questionnaire Responses**

All licensed veterinarians practicing in Idaho (559) were sent a questionnaire in July, 2005, in order to learn more about laboratory usage and zoonotic disease management. Not all questions were answered 100% of the time by all respondents, so the information is presented as the percentage of actual respondents for each question. Responses were received from 171 veterinarians (30%) and the majority of respondents were either small or mixed animal practitioners (40.9% and 37.4%, respectively).

### **Reportable Diseases Lists and Disease Reporting**

Less than half (42.5%) of respondents had seen or had access to the ISDA reportable and notifiable lists, while less than one third (29.7%) of respondents had seen the IDHW reportable diseases list. Ninety percent of respondents reported that they would contact an ISDA veterinarian if they suspected a zoonotic disease in a patient.

### **Interactions with District Health Epidemiologists**

During the last year only 10.9% of respondents had discussed public health issues with district health epidemiologists. Interestingly, 75% of respondents stated that they were very interested in meeting with district health staff in the future.

### **Zoonotic Disease Exposures in Clinic Settings**

30.5% encountered one or more situations in their practice involving human exposures to zoonotic pathogens over the last year; 90.2% of the time exposed persons were referred for medical consultation with a

## Questionnaire responses continued:

healthcare provider. 42.3% of the time the veterinarian reported providing some sort of information or literature to the exposed person. Only 5.7% of the time was someone from the district health department consulted on the zoonotic disease exposure.

### Laboratory Testing

83 respondents reported that in the last year they submitted samples to a diagnostic laboratory for a suspected zoonotic pathogen. The majority of samples went to either ISDA or WADDL.

### Shipping Regulations

The majority (76.9%) of respondents (or their staff) had not been trained in 2005 federal regulations regarding proper packaging and shipping of diagnostic samples.

### Emergency Response and Communications

Thirty-five of 169 respondents were IVERT members. Only 22.5% of respondents were receiving health alerts from their health districts and less than half (43.3%) of respondents were receiving regular emails from ISDA, but 34% stated that they wanted to sign up to receive e-mail in the future.

***Idaho Disease Bulletin***  
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Idaho Department of Health and  
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**ROUTINE PHYSICIAN 24-HOUR DISEASE REPORTING LINE: 1-800-632-5927**  
**EMERGENCY PHYSICIAN 24-HOUR REPORTING LINE: 1-800-632-8000**

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